

33. (Original) A method for performing velocity analysis on a seismic gather, the method comprising:

- computing a moveout travel time based on an initial model;
- computing an intermediate travel time;
- mapping the gather from the moveout travel time to the intermediate travel time; and
- scanning for velocities based on the intermediate travel time.

34. (Original) The method of claim ³³~~35~~, wherein the intermediate travel time comprises at least one scannable parameter. ₁

35. (Currently Amended) A system for migrating an input seismic data point having an input source location and an input receiver location, a scatter point, and an image location associated therewith, the system comprising:

means for determining a pseudo-offset the pseudo offset including a pseudo source location and a pseudo receiver location; and

means for mapping the seismic data point to the image location based at least in part on the pseudo-offset.

36. (Original) The system of claim 35, further comprising means for determining a pseudo ray parameter.

37. (Original) The system of claim 35, further comprising means for migration stacking.

38. (Original) A system for migration of a seismic data point having an input source location, an input receiver location, and a scatter point associated therewith, the system comprising:

- means for determining a projected source location;
- means for determining a projected receiver location;
- means for mapping the seismic data point from an input travel time to a projected travel time;
- means for determining a pseudo-offset based on the projected travel time; and